

# IN OUR BACKYARD

CANADIANA

JUN 25 1991



## AN UPDATE FROM THE ALBERTA SPECIAL WASTE MANAGEMENT CORPORATION

### Rocking and Rolling

When the Alberta Special Waste Treatment Centre opened in 1987, much of its varied flow of wastes was incinerated by twin rocking kilns. Within two years, the waste flow had increased to the point that an additional small rotary kiln was added, pending approval of a major plant upgrade.

Rocking kilns, rotary kilns ... what's the difference?

In fact, it's not very great. Both systems destroy wastes by intense heat. Both employ two incinerator chambers, the first of which is used to destroy the primary solid or liquid wastes, while the second burns off the residues and resulting gases.

The difference between the two systems is in the movement of the first chamber.

In the rocking kiln, the primary chamber rocks like a cradle up to 45° right and left of centre to completely expose the waste to the high temperature atmosphere. The chamber is periodically rocked through an arc of up to 180° to discharge (or dump) any solid material left over after burning. The second chamber finishes the job. It's used to achieve almost complete combustion of any remaining material at temperatures so high that

liquids are reduced to vapour and burned as gas.

The rocking kiln is a comparatively recent variation of the rotary kiln. Operating at temperatures between 800° and 1200° Celsius, it has the versatility to handle liquids, slurries, sludges, and some solid and containerized wastes.

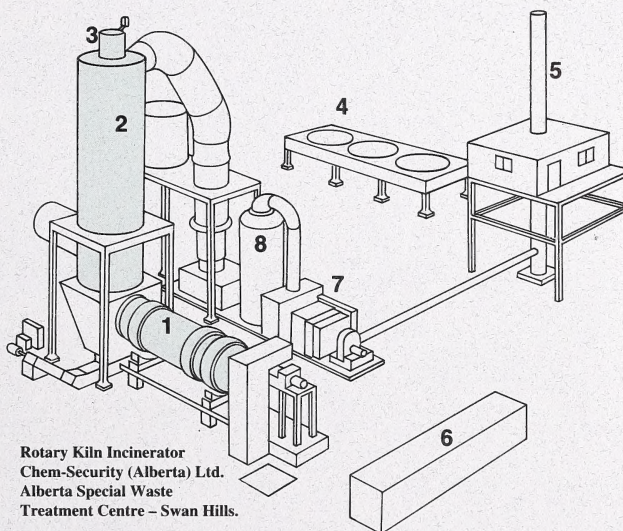
Based on available knowledge in 1985, this multi-purpose incinerator appeared ideal for the province's anticipated waste flow of mostly liquid waste.

### SHAKE-UP NEEDED

This was not to be the case, however. Due to a new trend toward recycling liquid hazardous waste and the discovery of large accumulations of solid waste by industry, the rocking kilns were eventually unable to keep up with the actual waste stream. In 1990, a small rotary kiln was added.

The 8 000 tonne/year rotary kiln was installed to meet the immediate demand

*Continued on page 3*



Rotary Kiln Incinerator  
Chem-Security (Alberta) Ltd.  
Alberta Special Waste  
Treatment Centre - Swan Hills.

- 1 Rotary Kiln
- 2 Secondary Combustion Chamber
- 3 Emergency Vent Cap
- 4 Aerial Cooler

- 5 20 m (66') High Stack
- 6 Control Trailer
- 7 Scrubber Separator
- 8 Condenser & Absorber

May/June 1991  
Volume 2  
Number 2

- ▲ ALBERTA COMMUNITIES ARE TOPS IN TOXIC ROUND UPS
- ▲ FARMERS ARE UNITED BEHIND OIL RECOVERY ALBERTA
- ▲ TALKING BACK
- ▲ FAMILIAR FORMULA
- ▲ ALTERNATIVES
- ▲ CALL DIRECT

Produced every two months by the Alberta Special Waste Management Corporation, "In Our Backyard" is intended to keep Albertans updated on issues and solutions in hazardous waste management. You can contribute to the process by "recycling" this newsletter. Pass it on to a friend with your comments. And, should you have suggestions you wish to share, pass them on to us. Our address, phone and fax number are on Page 4.



Alberta  
Special Waste  
Management  
Corporation  
AN ALBERTA CROWN CORPORATION

This newsletter is printed on recycled paper.



# Alberta Communities are Tops in Toxic Round Ups

Good news! Toxic Round Up Alberta is getting better all the time. Started in 1988, with eight communities participating, the program grew to include over 120 communities last year.

In a measure of public participation in Toxic Round Ups, both Edmonton and Calgary are listed among the top five cities in North America. With about two percent of residents taking part, both cities drew more participants than San Francisco.

*Lougheed, Bon Accord, Beaverlodge, Entwistle and Lethbridge recorded the highest per-capita participation rates, at four to nine percent of their populations.*

## \$2 MILLION TAB

Ironically, because of its success, there were doubts that the program could maintain its momentum this year.

It cost ASWMC some \$2 million to collect and treat household hazardous wastes in 1990 – and with volumes increasing by about fifty percent each year, costs are growing proportionately. In addition to the cost factor, ASWMC, which has funded the program since its inception, had originally planned to end its support in 1990.

Fortunately, the level of public participation helped to sway the Corporation's decision.

This April, ASWMC announced an extension of its commitment to the Household Toxic Round Up program for an additional three years, under which it will cover two-thirds

of the operating costs in 1991, and one third of the cost in 1992. In 1993, municipalities will be responsible for the optional cost of the program. The Corporation will cover the cost of managing and treating wastes collected in each of the three years.

## PRIVATE SECTOR SPONSORS

One promising note is the involvement of the private sector. **Norcen Energy Resources Ltd.** recently indicated its support for the program by agreeing to cover

the municipal portion of Household Toxic Round Up operational costs in more than 20 communities in which it operates.

**Alberta Power, Fort Saskatchewan Regional**

**Industrial Association, and Kneehill Soil** are among other private-sector sponsors working in partnership with their communities to ensure this program is a continued success.

# Farmers are United behind Oil Recovery Alberta

Alberta's farmers are lending their considerable support to the province's recycling efforts with an innovative new program called Oil Recovery Alberta. Operated by the United Farmers of Alberta, it's a system in which rural residents can return used oil and used oil containers to their nearest UFA Co-op.

As a public service, participating UFA agencies accept unpolluted engine oil, hydraulic and gear oils, and automatic transmission fluid for cleaning and recycling. The plastic oil containers are bulked and shipped to recycling agencies.

As of the end of April, over 100 000 litres have been collected. The program has involved the installation of special collection tanks and the development of new systems for transportation and security – but UFA is convinced that it's worth it. It points out that, every year, Canadians pour away some 250 million litres of used oil into ditches and drains.

**Don't Give Hazardous Wastes A Home!**

Check your home for potentially hazardous products you no longer need:

<b>GARAGE</b>	<b>HOUSE</b>	<b>BEDROOM</b>	<b>BATHROOM</b>	<b>SHED</b>
<input type="checkbox"/> Antifreeze	<input type="checkbox"/> Drain and window cleaners	<input type="checkbox"/> Plant thinners, strippers and solvents	<input type="checkbox"/> Toilet, drain and tile cleaners	<input type="checkbox"/> Ant and rodent killers
<input type="checkbox"/> Solvents	<input type="checkbox"/> Disinfectants	<input type="checkbox"/> Lacquers, stains, varnishes	<input type="checkbox"/> Pharmaceuticals	<input type="checkbox"/> Weed killers
<input type="checkbox"/> Battery acid	<input type="checkbox"/> Oven cleaners	<input type="checkbox"/> Wood preservatives	<input type="checkbox"/> Health care products	<input type="checkbox"/> Pesticides
<input type="checkbox"/> Gasoline	<input type="checkbox"/> Septic tank cleaners	<input type="checkbox"/> Asphalt and roof tar	<input type="checkbox"/> Pool chemicals	<input type="checkbox"/> Pool chemicals
<input type="checkbox"/> Rust inhibitors, emulsions	<input type="checkbox"/> Bleach and ammonia	<input type="checkbox"/> Alkyd and oil-based paints		
<input type="checkbox"/> Used motor oil	<input type="checkbox"/> Cleaning solvents and spot removers			
<input type="checkbox"/> Brake and transmission fluid				

**ATTIC**

- ☐ Artist's paints and inks
- ☐ Waterproofer
- ☐ Photographic chemicals
- ☐ Glues and cements

Help us collect and dispose of the household hazardous materials that threaten health, safety and the environment

Place: \_\_\_\_\_ Time: \_\_\_\_\_

Date: \_\_\_\_\_

**Norcen Energy**  
Supporting Communities Where We Work

**TOXIC ROUND UP ALBERTA**  
A co-operative program with the Alberta Special Waste Management Corporation

**TOXIC ROUND UP ALBERTA**  
A co-operative program with the Alberta Special Waste Management Corporation



## SHAKE-UP NEEDED

*Continued from front page*

for solid waste incineration. While considered a stop-gap measure in anticipation of a long-term addition to the facility, it has proven a welcome upgrade.

Built to the Centre's specifications, the rotary kiln employs a continuous conveyor mechanism to feed in solid wastes. This allows for uniform feeding and predictable operating conditions in the incinerator.

Apart from this feed mechanism, the rotary kiln is a reasonably straightforward piece of equipment consisting of a cylindrical, heat-resistant shell mounted horizontally at a slight slope. Solid wastes are burned in the continuously rotating kiln which is the first chamber. Combustion of gaseous waste, vaporized materials, and various liquid wastes is completed in the secondary, vertical chamber.

Operating temperatures range from 800°C to 1400°C in the kiln and 1000°C to 1400°C in the secondary chamber.

Rotary kilns provide the world's most widely-used method of hazardous waste incineration. They have the capability to destroy a wide range of bulk organic solids and containerized wastes as well as sludges, slurries and liquids.

By September 1990, adjustments to the *rocking* kiln (involving an increase in the rocking angle to improve agitation) and the addition of the *rotary* kiln made it possible for the Centre to achieve the highest monthly through-put of solid waste since the plant first came into operation.

Since then, of course, the operation has just kept rocking and rolling along.

## Talking Back

In February, we asked readers to participate in Talk Back Survey intended to establish future design and editorial directions for "In Our Backyard" and to determine whether this is a practical way of maintaining public awareness.

From our modest circulation of 5,000 copies we received 127 replies – representing a return of 2.5%.

In general, our respondents felt that "In Our Backyard" was a useful and informative publication; one which offered information not readily found elsewhere.

*"How else,"* asked one reader, *"can you make people aware of the ways they can improve the way they deal with these problems?"*

*"(The program) needs to be expanded,"* said another.

For one respondent, regular communication was the key to changing attitudes: *"The more often people hear about problems/solutions to waste management, the more likely they are to consider themselves part of the problem/solution and do something about it."*

Almost without exception, your responses were encouraging and supportive. *"Keep up the good work!"* was a familiar theme – and most seemed to appreciate our regular nudge in the collective consciousness. Only a few people had reservations. One found the type a little small. Another cautioned us to keep our language simple and direct. The third found our layout *'clumsy'* and advised us to, *"Get rid of the experts who design these flyers."*

### IS IT INFORMATIVE?

83.5% or 106 of the 127 respondents found the newsletter informative. 90.8% or 109 people found the newsletter readable and its page design conducive to reading.

34.6% or 44 of the 127 respondents, when asked to comment, answered in complimentary terms, most encouraging the continuation of the present policy.

### IS IT NECESSARY?

Asked if the Corporation's education and informational program was necessary and/or adequate, the great majority felt that the newsletter was necessary. 70 respondents or 55% offered comment, only one of them disparagingly (*'A waste of taxpayers' money'*).

*"It's very necessary,"* asserted one reader. *"Communication is the key to changing attitudes and legislation."*

*"Very necessary,"* echoed another. *"We should make as much information available as we can about what is waste, how to reduce it, and the effect on the environment."*

*"I believe that the general population needs to receive more information on the safety and health of the system and waste management,"* responded a third. *"Due to the fears and myths surrounding waste management, there should be more concentration on reducing these fears, by emphasizing the high standards presently in place."*

Others felt the information program should be enhanced or expanded:

*"How do we become (informed) without continued education? Would like to*

*see a weekly column devoted to issues in the daily newspapers."*

*"The newsletter should have a wider circulation."*

*"Some information should be going to schools."*

*"Do you have any issues suitable for use in our elementary schools? Let's educate our young people!"*

### WHAT TOPICS SHOULD RECEIVE GREATER COVERAGE?

Over 75% of our respondents – 97 of the 127 people represented – expressed an interest in greater coverage of recycling options and alternatives to hazardous materials.

There were some excellent suggestions regarding subject matter:

*"(We) need more on Alberta legislation."*

*"The specific nuts and bolts of how to dispose of what need to be communicated. Add something on 'Where can I find the information'. Government regulations need to be interpreted at a practical level."*

*"(Add a regular) Question & Answer section – provide business and industry individuals with a forum to ask specific questions, receive answers."*

*"Need 'Getting the facts on office recycling.'"*

Our sincere thanks to all who participated. You can expect to see many of your suggestions acted upon in future issues.



Return Postage Guaranteed  
if undeliverable return to:

ALBERTA SPECIAL WASTE  
MANAGEMENT CORPORATION  
610 - 10909 Jasper Ave.  
Edmonton, Alberta  
T5J 3L9

MAIL  POSTE

Canada Post Corporation / Société canadienne des postes

Postage paid

Port payé

Bik

Nbre

4752  
Edmonton, Alta.

## $C_8H_{10}N_4O_2$ - HOH

### - THE FAMILIAR FORMULA

This chemical can consist of white, heavy masses, or long flexible, silky crystals. It's odourless, with a bitter taste, and slightly soluble in water. When heated to decomposition, it emits toxic  $NO_2$ .

It's been used as an experimental carcinogen, mutagen and teratogen. And it's been implicated in increased fetal losses and cardiac disorders. It acts upon the central nervous system, and in large doses causes palpitation, excitement,

insomnia, dizziness, headache and vomiting. Continued excessive consumptions may lead to digestive problems, constipation, shortness of breath, and depression.

This familiar formula is used as a general purpose food additive—in soft drinks, for example—and is naturally found in coffee and tea. It is also used in medicines. We probably know it best as Caffeine.

## Alternatives

Here's something to think about while you're doing your spring cleaning.

**While your floor and furniture polish is perfectly safe if used properly and disposed of correctly, it probably contains some potentially hazardous ingredients.**

Chemicals such as diethylene glycol, petroleum distillates, and nitrobenzine are all used in polishes and because of their flammability, polish should never be warmed or heated. Doing so also releases toxic gases.

Floor and furniture polishes are also potentially poisonous if ingested in sufficient quantity, as emphasized by the old joke about the man whose wife consumed some by mistake. *"It was a sad end,"* he mourned, *"but she had a lovely finish."*

Product	Hazard	Recommended Disposal Method	Alternative
Floor and Furniture Polish.	Flammable Toxic	Store safely until a Toxic Round Up is organized in your community.	Use a mixture of 1 part lemon juice, 2 parts olive or vegetable oil.

## CALL DIRECT:

▲ For information on:

- Hazardous Waste Management Programs in Alberta
- Toxic Round Ups
- Community Study Groups
- Used Oil Program

ALBERTA SPECIAL  
WASTE MANAGEMENT  
CORPORATION  
1-800-272-8873  
422-5029 (Edmonton)  
428-9627 (Fax)

- ▲ For information on the transportation of dangerous goods:
- ALBERTA PUBLIC  
SAFETY SERVICES  
1-800-272-9600 (24 Hours)

▲ For a directory of waste management companies in Alberta:

ALBERTA SPECIAL  
WASTE SERVICES  
ASSOCIATION  
424-6384 (Edmonton)  
Hot Line (for small businesses)  
1-800-661- Waste (9278)

▲ For information on:

- Recycling: Newspaper, Metals, Plastics, Clothing
- RECYCLING BRANCH,  
ALBERTA ENVIRONMENT  
427-5838 (Edmonton)  
297-5925 (Calgary)

- ▲ To report an environmental emergency or to register a complaint:
- POLLUTION CONTROL  
DIVISION, ALBERTA  
ENVIRONMENT  
1-800-222-6514 (24 Hours)

- ▲ To access the clearing house that puts potential users of waste materials in contact with waste producers:
- ALBERTA WASTE  
MATERIALS  
EXCHANGE  
450-5408 (Edmonton)

ALBERTA SPECIAL  
WASTE MANAGEMENT  
CORPORATION  
610 - 10909 Jasper Ave.  
Edmonton, Alberta  
T5J 3L9



Alberta  
Special Waste  
Management  
Corporation  
AN ALBERTA CROWN CORPORATION